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**IN THIS
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- Procedures in Enterprise
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MARCH 1952



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Visible Systems—give you the facts you need to get top production from available facilities . . . at lowest possible cost!

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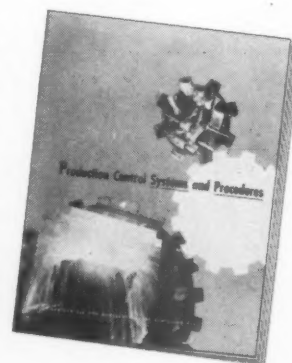
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be excellent in research, the knowledge it possesses is not used and may die with the staff officer.

4. The dominant line organization may not keep the staff fully informed on operations. The staff cannot function to the best of its ability if it does not have a complete picture.
5. The major staff executives may fail to inform lower staff levels of all actions at the higher levels about which they should know.
6. The line principal may fail to inform his staff officers of the standards to which the staff agency is expected to conform. If the staff department has a clear understanding of this, then it can check on its own performance, thus alleviating many misunderstandings that may otherwise easily arise.
7. Since the staff is not responsible for results, at times it may not be so careful as it should be in giving advice, relying on the line to catch any defects. Psychologically this is not a good situation.¹⁰

¹⁰See Anderson and Schwenning, *op. cit.*, pp. 166.

SUMMARY

The relationship of the staff to the line organization is a delicate one fraught with inherent difficulties unless both parties thoroughly understand the relationship and strive to promote the general welfare of the company rather than to magnify differences. It is very important that the responsibilities of the staff be clearly defined. It is also highly desirable that both the line and staff officers be carefully trained in the theory behind the line-and-staff organization. Added to the clear definition of function and detailed training in principles is needed dynamic leadership by the line officers to keep the relationship in balance. It is so easy to retain the structure and name yet change the facts of a relationship over a period of time so gradually that the parties involved at the top are scarcely aware of the transformation. The people down the line who are most involved will know it, and also suffer considerable emotional distress, yet their voices may never be heard by the people responsible for correcting the situation.

When relationships are kept in proper perspective the staff may render invaluable aid in the areas of *advice, control, coordination, and service*. The final re-

sponsibility for keeping the staff organization in a balance relationship rests with the line officers. Aggressive individuals either in the line or staff tend to get more recognition than is their just due unless management is constantly on guard to see that the people who perform their duties quietly but effectively are given due consideration. This tendency is not confined to business organizations but is equally true of universities, government, churches, and the armed services. Eternal vigilance is the price that has to be paid to keep the "no-man's-land" of responsibilities between the line and staff clearly marked. Just as markers on the highway are often ignored, sometimes removed, or even shifted by selfish individuals so are functional definitions of responsibilities in organization at times ignored, or modified in fact, even though not changed in the organizational manual. Constant evaluation of the organization performance, careful follow-up training in institutional objectives, and a firm hand at the helm is required to keep the line-and-staff on a true course. When this is done individual satisfactions are increased and the work experience provides a way of life as well as means of earning a livelihood.



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PROPER COSTING

The eyes of the factory, the control room. Here a constant stream of vital production data flows to the electronic pens and the wire recorders.

Cutting the Costs of Costing

By G. KEMPTON SMITH

President, Kempton Smith, Inc., New York City

The bugaboo of factory owners and cost accountants. Whether you're making ten units or ten million, these electronic controls and wire recorders slice overhead, speed scheduling, and jump up output, too.

"THE OPERATION WAS A success—but the patient died."

Talk to any good cost accountant or comptroller and he'll tell you that proper costing is at the core of competitive manufacturing. Yet, while the design and development of innumerable paper systems mount to the equivalent of a paper blizzard, top-heavy administrative burdens eventually sound the death knell of even the most hardy survivors of the first six months.

At least one mass manufacturer of paints and brushes has attacked the problem in a uniquely successful fashion.

By the installation of wire recorders, completely automatic posting instruments, and electronic counters, one girl now assembles all factory production data in about one hour a day—and that without ever having to leave her desk! The rest of her time is spent in varied, general secretarial and office duties.

Unlike other systems, complete and

unquestionably accurate cost and production records are placed on the desk of the chief executive every morning by 10 A.M.

Now more than ever, with labor costs and break-even points ascending skyward like homesick angels and many products in danger of pricing themselves out of the market—it's vitally necessary to slough off the excess fat in non-productive administration.

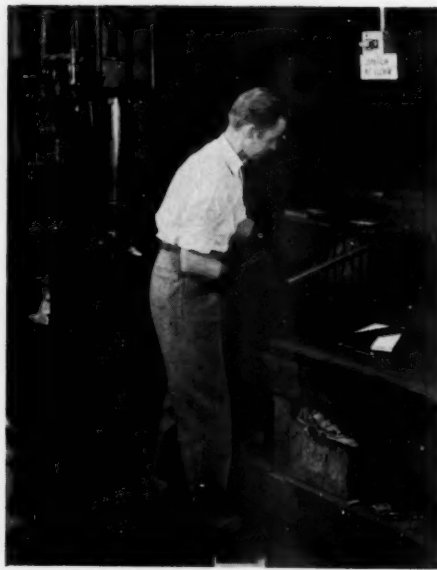
These tools will not only help you to trim ship; they also provide extra dividends in increased output, better schedules and material savings.

While the factory operators have often wryly referred to the system as "the handwriting on the wall", the complete and unquestioned accuracy of these records have actually helped morale.

Where formerly it took an operator between five and ten minutes to laboriously fill in his production and cost records, he now merely presses a button and tells his story to the wire recorders in the control room. Where arguments as to the accuracy and integrity of factory production standards were interminable,



The ears of the factory, the electronic cost centers, where the worker merely flicks a switch and speaks his piece to the control room recorders.



A typical work station installation for bench of hand workers. Note simple foot switch which allows operator to record without interrupting the work rhythm



Sandwiched in between her innumerable regular duties, the secretary transcribes the recorded data of the previous day.

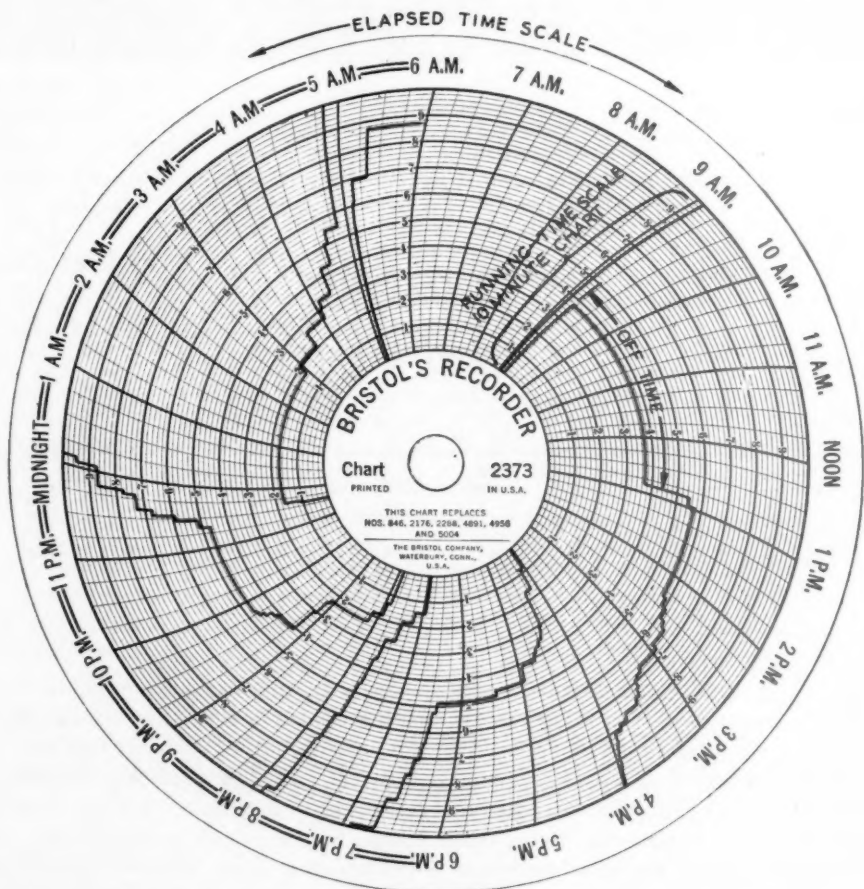
now peace has broken out—since no one can, or does, question the formidable array of actual production history which the machines have accumulated since they have been in operation. Where once it took two to four weeks to receive questionable records at best, the same data is now instantly available in writing. And finally while most seasoned factory executives know that cost systems come and cost systems go—the machines go on silently forever.

The heart of the system is the control room where the pulse of the factory is taken. Here on the wall directly in front of the manufacturing executive, the production counters click, the charts turn, the pens write their own electronic language while the vital statistics of the factory flow in a constant stream into the battery of wire recorders.

While the system is the extreme of simplicity and economy in its operation, its actual installation requires some degree of specialized engineering and production knowledge. Certain machines or operations required their own custom-tailored application.

For example the grinding mills register on recording ammeters which by remote amperage reading show the exact speed and actual production of each mill. And the instruments cannot be fooled.

A typical recording ammeter shows when the machine is down; when it is idling at low speed with nothing in it; when it's running in low gear under pro-



Face of operation time recorder charts which not only show the time and pace at which production occurred but even indicate the percentage of available machine time used.

Problems In Executive Selection

By MILTON M. MANDELL

Chief, Administrative and Management Testing,
U. S. Civil Service Commission, Washington

With the growth of industry, the executive count has grown by leaps and bounds. The evaluation of executive standards needs careful scientific study and research.

IN CONQUERING any research or administrative problem the first step has to be the recognition that a problem exists. In executive selection, few people now question the need for better methods, although most people are skeptical of the possibilities for success and many are dubious as to the value of present efforts.

Professor L. L. Thurstone, one of the foremost psychometricians in the United States, found a basis for this feeling of skepticism on scientific grounds, saying, "The intellectual and temperamental qualities that insure success in administrative work are probably more complex than almost any other group of abilities that can be thought of. Psychologists who investigate fundamental human traits would undoubtedly seek to investigate first those traits which can be assumed to be less complex."¹

Executives for their part, hold four attitudes on the subject of executive selection, according to Lawrence Appleby. They are:

We recognize these truths and we have agreed upon and are following a very specific program from which we are receiving great benefits; we recognize these truths but we cannot agree upon methods and are, therefore, in the process of trying to discover the best method for our own use; we agree in part with these

truths but believe that experience on the job is sufficient and that no special attention is required; we believe that this is all pretty much theory and that competent management will show up from within our ranks whenever the need arises.²

REASON FOR DEFEATISM

One of the most important reasons for the feeling of defeatism in this area of selection arises from studies which have been conducted where the results were either apparently contradictory to each other or led to negative findings. It is natural that such results should lead to pessimism, but it can be contended that the apparently poor results are sometimes only superficially so. In addition to the usual reasons why studies of this kind may be inadequate, there are a number of ambiguities in these particular studies that partially remove the justification for the claims of contradiction or failure to obtain significant results. In the first place, there have been frequent differences in the types of positions included in such studies. Secondly, there have been wide differences in level of positions included, with first-line supervisors lumped together with top executives and both labeled executives. Differences in the nature of organizations have led to different considerations

in evaluating the subjects of the study for the purpose of establishing the criterion. Also, because many of the investigators have not had the opportunity to obtain full job information, they have not been able to develop the insight needed for determining which selection methods to try and which criteria to use. These pitfalls add to the difficulty of conducting such studies, but they do not destroy the possibility of obtaining worthwhile results if the studies are carefully conducted and the data are categorized and analyzed with insight.

There is general recognition, furthermore, that all other efforts at improving management, whether by means of bettering selection or training of rank and file employees, professional employees, or supervisors, or by bettering organization structure or work techniques, are ultimately dependent for their full effectiveness on the catalytic reaction started and maintained by the quality of the executives in the organization. Solving these other problems of selection, training, organization, and methods is of high, but none the less secondary, importance until the quality of executives is improved. The late Edward Stettinius, former Secretary of State, made an impressive plea for a solution of this problem when he said:

In the old days, when the largest businesses were small in contrast with many today, when it could be said much more accurately than now that "every business is the lengthened shadow of one man," when that man could and often did know each of his employees by first name, a list (of executives) and a list only was needed but today, when business enterprises are designed as self-perpetuating organizations, when their executives are frequently numbered by hundreds and their employees by many thousands, when the art of management has of necessity come to resemble navigation—by instrument largely—is it not obvious that ways and means must be found to discover and evaluate executives in accordance with pre-established standards? Isn't it at once desirable and imperative that we bring to this problem something of the scientific spirit?³

Since very little research work has been done in this field, few of the findings, either negative or positive, can be

the training and development program is a continuous one, whereas in civilian life executive training programs tend to be of too brief duration. The third and final reason why selection at this early age in the military forces is not too objectionable is that the selection process is such that a greater proportion of potential executives will be produced than in civilian life: the high intellectual standards which are used for admission to the academies and the physical vigor usually associated with those who are interested in appointments to the academies, are factors positively associated with executive success.

¹⁴F. C. Hooper, *Management in the Public*

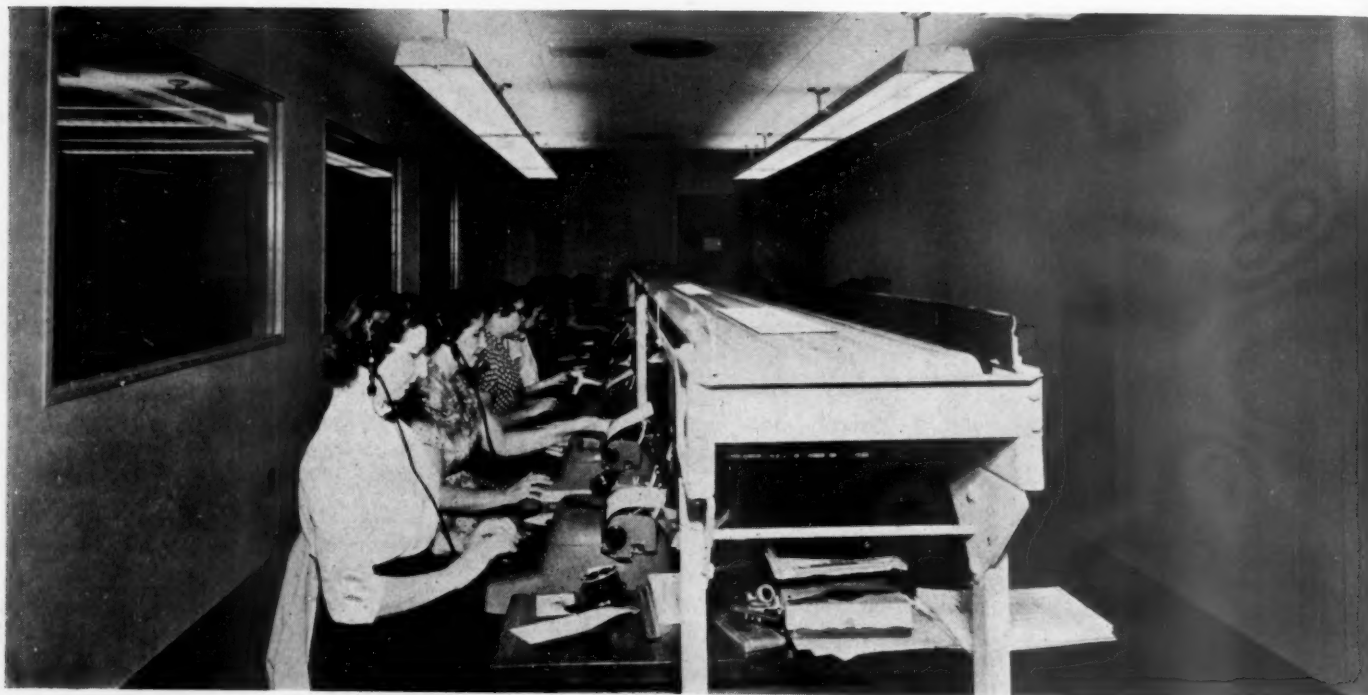
Services (London: Institute of Public Administration, 1948), p. 9.

¹⁵Allan Nevins, *Grover Cleveland* (New York: Dodd, Mead & Co., 1938), pp. 40-56.

¹⁶Alvin F. Harlow, *Theodore Roosevelt, Strenuous American* (New York: Julian Messner, Inc., 1943), pp. 38-60.

¹⁷Changes in personality characteristics are vividly described in the following material which paraphrases Douglas S. Freeman, *Lee's Lieutenants*, Vol. III (New York: Scribner, 1944), pp. 92-105: The old-time Ewell would have piped, "Yes, attack!" before the words were off Gordon's lips. This new, changed Lieutenant General (Ewell) paid no heed to

Gordon. He turned to answer the message (Johnson had said he would soon be able to go into action) with the order that Johnson should continue his advance until well to the front. Then he should halt and await orders. His auditors could scarcely believe that this was the once-decisive Ewell. The corps commander was simply waiting for orders, when every moment of time could not be balanced with gold. When fellow officers pressed him for a decision, he resented their persistence and made impatient answer, refusing to act. Lee decided to shift Ewell to the right because he doubted Ewell's ability to make up his mind to do anything.



PAPERWORK HANDLED BY CONVEYOR

At the new Philadelphia distribution center of Smith, Kline & French, Inc., distributors of some 30,000 drug store items, all the paperwork is now being handled by belt conveyors. From the time an order is phoned in, until the shipment is made, the papers travel from station to station by belt conveyors.

In the order-receiving room where the paper flow begins, sixteen girls handle hundreds of telephone calls per day, typing each order as it is received. The order form is placed on the conveyor belt which is approximately 5 feet high, a convenient reaching height which also allows desk space under the belt. This conveyor discharges to a second con-

veyor at right angles to it.

The second belt takes the orders to the "order control" station where the credit is checked and the order segregated as to whether large or small. Bills of lading are made here when required and the customers' addressograph plate is secured. At this station items are coded as to their warehouse location.

Next, the order is dispatched through a vertical chute to the warehouse below where the order is filled. A vertical conveyor brings the paper upstairs. This vertical conveyor comprises two facing and touching belts which carry the papers upward by sandwiching them between the belts.

The vertical conveyor discharges to a third horizontal conveyor which carries the papers to the head pricer who distributes them among twelve assistants. The carbon order invoice is sent to the shipping desk for insertion with the outgoing goods. The original goes to "accounts receivable" for entry.

By this means of belt conveyance of the large volume of paper work from station to station, countless steps are saved, confusion is eliminated and loss is prevented. Only forty people are now needed to process the tremendous traffic and the system speeds paper processing, order placing, and shipping.

